OMB Approval Number: 2050-0095
Approved for Use Through: 4/95

Mound Street
MO0000093682
1.5

3.1.94

Site Name: Mound St. PCBs
CERCLIS ID No.: MO0000093682
Street Address: 100 Mound St.
City/State/Zip: St. Louis, MO 63102

Investigator: Don Falls
Agency/Organization: MDNR
Street Address: 205 Jefferson Street
City/State: Jefferson City, MO

Date: 3/1/94

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 PCB contaminated oil	Drums	WQ value	maximum
Volume	5.00E+00 drums	5.00E-01	5.00E-01
2 coal tar waste	Contaminated soil	WQ value	maximum
Area	1.30E+05 sq ft	3.82E+00	3.82E+00
3 PAHs	Contaminated soil	WQ value	maximum
Area	3.00E+05 sq ft	8.82E+00	8.82E+00

WQ total 1.31E+01

** Only First WC Page Is Printed ** | Waste Characteristics Score: WC = 18

Ground Water Pathway Criteria List
Suspected Release

Are sources poorly contained? (y/n/u)	Y
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	Y
Is precipitation heavy? (y/n/u)	N
Is the infiltration rate high? (y/n/u)	N
Is the site located in an area of karst terrain? (y/n)	Y
Is the subsurface highly permeable or conductive? (y/n/u)	U
Is drinking water drawn from a shallow aquifer? (y/n/u)	N
Are suspected contaminants highly mobile in ground water? (y/n/u)	N
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	Y
Other criteria? (y/n) N	
SUSPECTED RELEASE? (y/n)	Y

Summarize the rationale for Suspected Release:

Analytical results indicate contamination of the shallow ground water at the site by PAHs. There is also a strong possiblity that oil contaminated with PCBs has reached the shallow ground water. However, there are no known drinking water wells within a four mile radius of the site, so there are drinking water targets.

Ref: 6,7,9

Ground Water Pathway Criteria List
Primary Targets

Is any drinking water well nearby? (y/n/u)	N
Has any nearby drinking water well been closed? (y/n/u)	N
Has any nearby drinking water well user reported foul-testing or foul-smelling water? (y/n/u)	N
Does any nearby well have a large drawdown/high production rate? (y/n/u)	N
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	N
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	N
Does any drinking water well warrant sampling? (y/n/u)	N
Other criteria? (y/n)	N
PRIMARY TARGET(S) IDENTIFIED? (y/n)	N

Summarize the rationale for Primary Targets:

Previous analytical results indicate contamination of the shallow aquifer near the site, but there are no known drinking water wells within a four mile radius of the site so there are no drinking water targets.

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do you suspect a release? (y/n)	Yes	
Is the site located in karst terrain? (y/n)	Yes	24
Depth to aquifer (feet):	20	12
Distance to the nearest drinking water well (feet):	22000	12

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550		
2. NO SUSPECTED RELEASE		0	
LR =	550	0	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) N	0	0	
5. NEAREST WELL	0	0	
6. WELLHEAD PROTECTION AREA None within 4 Miles	0	0	
7. RESOURCES	5	0	
T =	5	0	

WASTE CHARACTERISTICS

WC =	18	0

GROUND WATER PATHWAY SCORE: 1

Ground Water Target Populations

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
None				

*** Note : Maximum of 5 Wells Are Printed *** Total

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
		Total	0

Apportionment Documentation for a Blended System

Surface Water Pathway Criteria List
Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	Y
Is the drainage area large? (y/n/u)	N
Is rainfall heavy? (y/n/u)	N
Is the infiltration rate low? (y/n/u)	U
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	Y
Is vegetation stressed along the probable runoff path? (y/n/u)	N
Are sediments or water unnaturally discolored? (y/n/u)	U
Is wildlife unnaturally absent? (y/n/u)	N
Has deposition of waste into surface water been observed? (y/n/u)	Y
Is ground water discharge to surface water likely? (y/n/u)	Y
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	Y
Other criteria? (y/n) N	
SUSPECTED RELEASE? (y/n)	Y

Summarize the rationale for Suspected Release:

Waste oilcontaining PCBs at 47ppm was found in the wet well of a storm water pump station less than 300 ft. from the Mississippi River. Employee of Metropolitan Sewer District states that it is possible that some of the waste oil escaped to the river. Also, U. S. Coast Guard has investigated several oil slicks on the Mississ ippi River suspected of coming from the old Mound St. power plant.

Surface Water Pathway Criteria List
Primary Targets

Is any target nearby? (y/n/u) If yes: Y
- Y Drinking water intake
- Y Fishery
- Y Sensitive environment

Has any intake, fishery, or recreational area been closed? (y/n/u) N

Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u) Y

Does any target warrant sampling? (y/n/u) If yes: Y
- U Drinking water intake
- U Fishery
- Y Sensitive environment

Other criteria? (y/n) N

PRIMARY INTAKE(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Intakes:

Although the Illinois Metro-East water intake is located only one mile downstream from the probable point of entry on the Mississippi, the high dilution factor of the river and the nature of the contaminant would make it unlikely that the waste oil would reach the intake.

continued -------

continued -------

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) Y

Summarize the rationale for Primary Fisheries:

Waste oil contaminated with PCBs was discovered seeping into the wet well of a storm water pump station located less than 300 ft. from the Mississippi River. Employee of the MSD states that it is possible that some of this oil escaped to the river. Mississippi River is a major fishery. From the literature, a major source of human PCB exposure is through consumption of contaminated fish.

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n) Y

Summarize the rationale for Primary Sensitive Environments:

Mississippi River is critical habitat for the Pallid Sturgeon a nd the Sicklefin Chub, both are rare or endangered fish species. W aste oil contaminated with PCBs is believed to have escaped fr om a storm water lift station along the banks of the Mississippi River. Also, there is a report that the U. S. Coast Guard has inves tigated several oil slicks suspected of coming from the Mound St. pow er plant.

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics		Ref.
Do you suspect a release? (y/n)	Yes	
Distance to surface water (feet):	300	9
Flood frequency (years):	>500	12
What is the downstream distance (miles) to:		
a. the nearest drinking water intake?	0.2	13
b. the nearest fishery?	0.0	14
c. the nearest sensitive environment?	0.2	

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550		
2. NO SUSPECTED RELEASE		0	
LR =	550	0	

Drinking Water Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): Y	2	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	7	0	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
1 Illinois Metro	N	>10000 cfs	180000		0

Total Primary Target Population Value	0
Total Secondary Target Population Value	2

*** Note : Maximum of 6 Intakes Are Printed ***

Apportionment Documentation for a Blended System

The East St Louis Metro East intake is located on the Mississippi River which has a flow rate greater than 10000 cfs. The Illinois American Water Company which uses the intake has an average daily production of 30 MGD and a combined service population of 300,000. The Metro East intake reportedly provides 60 % of the total production.

Ref: 13

Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	300		
10. SECONDARY FISHERIES	0	0	
T =	300	0	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 Mississippi River	Y	primary fishery		300

Total Primary Fisheries Value	300
Total Secondary Fisheries Value	0

*** Note : Maximum of 6 Fisheries Are Printed ***

Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	300		
13. SECONDARY SENSITIVE ENVIRONS.	0	0	
T =	300	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 Mississippi River	Y	primary sens. envir.		300
2 Riparian wetlands	N	>10000 cfs		0

Total Primary Sensitive Environments Value 300
Total Secondary Sensitive Environments Value 0

*** Note: Maximum of 6 Sensitive Environments Are Printed ***

Surface Water Pathway Threat Scores

Threat	Likelihood of Release(LR) Score	Targets(T) Score	Pathway Waste Characteristics (WC) Score	Threat Score LR x T x WC / 82,500
Drinking Water	550	7	32	1
Human Food Chain	550	300	32	64
Environmental	550	300	32	60

SURFACE WATER PATHWAY SCORE: 100

Soil Exposure Pathway Criteria List
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u)	N
Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u)	U
Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u)	N
Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u)	N
Does any neighboring property warrant sampling? (y/n/u)	Y

Other criteria? (y/n) N

RESIDENT POPULATION IDENTIFIED? (y/n) N

Summarize the rationale for Resident Population:

There are no residents within 200 feet of the site. Site is industrial and commercial in nature. There are no schools or daycares located within 200 feet.

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics		Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	No	
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	No	
Is the facility active? (y/n):	No	

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 0 resident(s) 0 school/daycare student(s)	0	
3. RESIDENT INDIVIDUAL	0	
4. WORKERS None	0	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	0	
T =	0	

WASTE CHARACTERISTICS

WC = 18

RESIDENT POPULATION THREAT SCORE: 1

NEARBY POPULATION THREAT SCORE: 1

Population Within 1 Mile: 1 - 10,000

SOIL EXPOSURE PATHWAY SCORE: 2

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
None		
Total Terrestrial Sensitive Environments Value		

*** Note : Maximum of 7 Sensitive Environments Are Printed ***

Air Pathway Criteria List
Suspected Release

Are odors currently reported? (y/n/u)	N
Has release of a hazardous substance to the air been directly observed? (y/n/u)	N
Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air? (y/n/u)	N
Does analytical/circumstantial evidence suggest release to air? (y/n/u)	N
Other criteria? (y/n) N	
SUSPECTED RELEASE? (y/n)	N

Summarize the rationale for Suspected Release:

A oil fire in the Mound St. power plant may have released PAH contaminants to the air but this was only a one time occurrance. t he soil at the site is known to be contaminated with cyanide and PAHs and possibly PCBs. However, the probability of detecting these contaminants in the air is low due to the gravel cover atthe site.

AIR PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do you suspect a release? (y/n)	No	
Distance to the nearest individual (feet):	200	

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		500	
LR =	0	500	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	54	
5. NEAREST INDIVIDUAL	0	1	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	0	
8. RESOURCES	0	5	
T =	0	60	

WASTE CHARACTERISTICS

WC =	0	18

AIR PATHWAY SCORE: 7

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	0		0
Greater than 0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	3800		8
Greater than 1 to 2 miles	75000		27
Greater than 2 to 3 miles	80000		12
Greater than 3 to 4 miles	100000		7
	Total Secondary Population Value		54

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

*** Note : Maximum of 7 Sensitive Environments Are Printed***

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
1 Riparian wetlands	>1/4-1/2		0.0
Total Secondary Sensitive Environments Value			

SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	1
SURFACE WATER PATHWAY SCORE:	100
SOIL EXPOSURE PATHWAY SCORE:	2
AIR PATHWAY SCORE:	7
SITE SCORE:	50

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? No

   If yes, identify the well(s).

   If yes, how many people are served by the threatened well(s)? 0

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?
   A. Drinking water intake — No
   B. Fishery — Yes
   C. Sensitive environment (wetland, critical habitat, others) — No

   If yes, identity the target(s).
   Mississippi River is listed for the protection of aquatic live, and is a major fishery.

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? No

   If yes, identify the properties and estimate the associated population(s)

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? No

   If yes, explain:

REFERENCE LIST

1. See Mound St. PCBs Preliminary Assessment narative references.